

The Pterosaur Database

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Lydekker R, 1890; On the Ornithosaurian Remains from the Oxford Clay of Huntingdonshire, Quarterly Journal of the Geological Society, Pt.46 pp.429-431

This paper describes the Type Specimen of *Rhamphorhynchus jessoni*. A footnote on the original first page reads;

*When the paper was read the author was under the impression that the specimens came from Northampton.

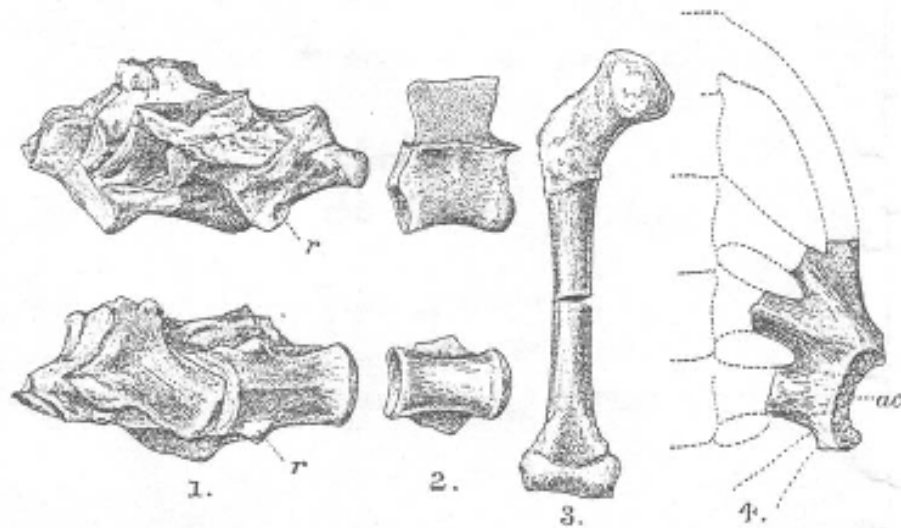
24. *On Ornithosaurian Remains from the Oxford Clay of Huntingdonshire**. By R. Lydekker, esq., B.A., F.G.S. (Read April 16, 1890.)

My friend Mr. Thomas Jesson recently forwarded to me a few small associated bones obtained from the Oxford Clay of St. Ives, Huntingdonshire, which are of a certain amount of interest as being the only specimen of Pterodactyl hitherto described from these deposits in England, or, indeed, so far as I am aware, in any other part of Europe. The specimens comprise seven vertebrae, portions of the ilia and ischia of both sides; one femur and the distal portion of the corresponding bone of the opposite side; part of a bone, probably from the shaft of the tibia; and two un-determined fragments. When they came into my hands they were partially bedded in their native clay, and their broken surfaces show the pyritous impregnations so characteristic of Oxfordian specimens.

The Ornithosaurian nature of the specimens is at once shown by the hollow shafts of the long bones and the structure of the vertebrae, the latter having procoelous centra, with complete obliteration of the neuro-central suture. The two fragments of the femur (fig.3) which I have placed in apposition, do not exactly fit together, so that there may be a portion missing from the middle of the shaft, and it is quite possible that I have not put the proper distal half in apposition with the proximal one. The bones indicate an individual of somewhat smaller size than the examples of the Lower-Kimmeridgian *Rhamphorhynchus Gemmingi* figured by Professor von Zittel in the 'Palaeontographica,' vol. xxix. pl. xii.

The portions of the pelvis (fig.4) now remaining are of the peculiar type characteristic of *Rhamphorhynchus*, as is so well displayed in the specimen represented in fig.2 of the plate cited. The peculiarity of this type of pelvis is that the ischium is connected with the hinder portion of the ilium to form a large expanded plate; while the ilium itself is united with the sacrum by means of four broad and flattened sacral ribs, which are ankylosed to the ilium, of which they appear to be mere processes. On the other hand, so far as I can gather from Meyer's figure of *P. spectabilis* [*Pterodactylus kochi*], the pelvis of *Pterodactylus* is constituted on quite a different plan; which alone justifies our regarding the two genera as separate families. Now, although the conjoint ilia and ischia of the Oxfordian Pterodactyle are far from perfect, yet such of the several processes of the ilia as remain so exactly accord with those of *Rhamphorhynchus* that I think the English form may be safely referred to that genus.

Of the vertebrae we have two, in apposition, which from their large size are evidently cervicals. They are somewhat smaller than those of the specimen represented in fig. 1 of Zittel's plate. The arches and spine are not well preserved, but the inferior aspect of the centra (fig. 1) is entire. These exhibit a feature which at the time Professor Huxley wrote his 'Anatomy of Vertebrate Animals' had not been observed, but which has subsequently been recorded by Dr. Baur in the genus *Rhamphorhynchus*. This feature is the presence of a distinct rib-facet at the lateral boarder of the inferior surface of the centrum, thus proving the existence of cervical ribs at least in this genus of Pterodactyls.



Rhamphorhynchus Jessoni.—1. Left-lateral and ventral aspects of two cervical vertebrae; *r*, rib-facet. 2. Left-lateral and ventral aspects of a dorsal vertebra. 3. Ventral aspect of the left femur. 4. Ventral aspect of the left innominate; *ac*, acetabulum. (All the figures are twice the natural size.)

Another vertebra which calls for notice is an entire dorsal. The most noticeable feature of this specimen (fig.2) is the lowness and length (anterio-posteriorly) of the neural spine, which strikingly recalls that of a bird. There is no rib-facet on the centrum, and apparently non on the arch, so that the rib was probably supported entirely on the transverse process, as in crocodiles. An imperfect sacral vertebra shows the widely expanded sacral ribs anchylosed to the centrum, and corresponding in size with the sacral processes of the ilium.

The femur, as I have placed the two fragments, measures about one inch [2.5 cm] in length. The globular head is set very obliquely to the shaft by means of a long 'neck;' there is no inner trochanter, although the posterior surface of the shaft shows a distinct *linæ aspera*.

The specimens under consideration are of interest, not only as the first recorded evidence of an Ornithosaurian in the Oxford Clay, but also as showing the natural contour of the bones, which are generally more or less flattened in the specimens from the Lithographic Limestone. They do not afford characters by which the species to which they belong can be definitely distinguished from *Rhamphorhynchus Gemmingi*; but since they come from a lower horizon than the latter, I have ventured to regard them as a type of provisional species, for which I have proposed the name *R. Jessoni*. The genus *Rhamphorhynchus*, as now restricted, has been hitherto known only from the Lower-Kimmeridgian Lithographic Limestone.